DOCUMENT RESUME

ED 149 130 08 CE 014 398

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TITLE	A Study of Career Education in Six School Districts.
INSTITUTION	Stanford Research Inst., Menlo Park, Calif.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
REPORT NO	SRI-3461
PUB DATE	Oct 77
CONTRACT	NIE-C-74-0105
NOTE	43p.; For related documents see CE 014 398-400
EDRS PRICE	MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS	Administrator Attitudes; *Adoption (Ideas); *Career Education; Case Studies; *Change Strategies; *Educational Change; *Educational Innovation; Elementary Secondary Education; *School Districts; Success Factors; Teacher Attitudes

ABSTRACT

Processes and outcomes of the implementation of career education programs during the 1974-75 in six diverse school districts located throughout the country were examined. Procedures were designed to use both formal questionnaires and case study methods in gathering information. Use was made of statistical, interview, and documentary data in describing and analyzing the implementation programs. Findings indicated strong acceptance of career education goals among education personnel and a willingness to incorporate the concepts into programs. Career education was seen as one of a variety of reforms that should be undertaken. Not perceived as a radical reform, it fit comfortably into elementary curricula. At the secondary level, it was difficult to distinguish it from vocational education. Cross district analyses indicated no substantial relationships bearing on career education implementation with respect to either teacher or student characteristics. There was little community involvement in planning and none in direction of the program. Tailoring career education to local needs was identified as the strongest single influence on classroom practice, with the outsider role limited to providing materials and other support to be used appropriately by district personnel. Relationships that enhance the chance for successful career education implementation were identified, but it was concluded that because of the complexity of the implementation process and the variety of settings it is difficult to establish clear cut relationships among implementation factors and implementation success. (An appendix detailing the procedures and another containing the case studies are available separately.) (JT)

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ED149130

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A STUDY OF CAREER EDUCATION IN SIX SCHOOL DISTRICTS

October 1977

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Prepared for:

Department of Health, Education and Welfare
National Institute of Education
Washington, D.C. 20208

Contract NIE-C-74-0105

SRI Project 3461

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ABSTRACT

Career Education (CE) was conceived as a means of bringing work and education closer together. The concept is substantially broader than that of vocational education, which has most often concerned itself with imparting skills for a limited number of occupations. Career Education is meant to be a component of lifelong learning, preparing the learner for a varied succession of jobs and also for the enjoyable use of leisure time.

The processes and outcomes of the implementation of Career Education programs during 1974-75 in six diverse school districts located throughout the country were examined during this study by SRI International. The districts had been chosen originally to participate in the development of the federally sponsored Comprehensive Career Education Model (CCEM). The planning process, however, was not limited or restricted to use of the CCEM curriculum units that had been developed and, in fact, only limited use was made of them in most cases.

This study was designed to use both formal questionnaires and case study methods in gathering information, because site visits indicated that the districts and the CE programs to be implemented were quite diverse. The case studies make use of statistical, interview, and documentary data in describing and analyzing the implementation programs.

The study indicates strong acceptance of CE goals among the education personnel in the six school districts and a willingness to incorporate the concepts into their programs. There is little evidence that CE is seen as a driving idea that will solve a substantial part of education's problems. CE is seen as useful and perhaps necessary, but only one of a variety of reforms that should be undertaken, and probably not the most important one. Career Education is not perceived as a radical reform, and it fits comfortably into elementary curricula. At the secondary level, it is difficult to distinguish CE from vocational education. Cross district analyses indicate no substantial relationships bearing on CE implementation with respect to either teacher or student characteristics. There was little community involvement in planning and none in direction of the program.

Tailoring Career Education to local needs is the strongest single influence on classroom practice, with the outsider role limited to providing materials and other support to be used appropriately by district personnel. If there is a federal desire to establish uniformity in the programs it supports, it will be necessary to develop precise definitions and monitor expenditures so that innovation integrity is maintained.

The following is a set of relationships that enhance the chance for successful Career Education implementation:

- Training and involvement between the user, adopter, and developer groups.
- Explicit perception by the user group of its goals and its new role.
- Favorable attitudes toward change by the user and adopter groups.
- Favorable attitudes toward innovation by the user and adopter groups.
- Innovation with simple and defined characteristics.
- Compatible characteristics of the students and the innovation.
- Accessible and extensive innovation materials.
- Community support of innovation.
- Appropriate background and experience of the user group with the innovation.

Implementation of Career Education is a complex process, and the settings in which it takes place vary greatly. For those reasons, clear cut relationships among CE implementation factors and CE implementation success are difficult to establish.

This report is supplemented by two appendices (Appendix A--Procedures and Appendix B--Case Studies) which are printed as two separate volumes.

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ACKNOWLEDGMENTS

Both the shaping of the concepts guiding the study and the obtaining of the information needed to investigate the Career Education and implementation questions under analysis were greatly facilitated by the cooperation, assistance, and consultation of many individuals on the staffs of the school districts whose programs were examined. The Career Education project staffs were particularly helpful in this regard, but many others, including superintendents, principals, teachers, and specialists provided valuable time and assistance.

Special recognition is due to the professional, technical, and support project staff of SRI International and Policy Studies in Education (PSE) who carried out all phases of this study in a highly competent manner. They are:

Dr. Charles Norwood
Dr. Douglas Paul
Ms. Marjorie Griffin
Ms. Sylvia Jeans
Ms. Jean Lotridge
Ms. Elizabeth Milrod
Mr. Stephen Stuntz

To Mr. Richard Marciano and Dr. Philip Sorensen, who assisted the project in administrative and supervisory capacities, we extend our thanks.

Finally, we thank Dr. David Goodwin for his foresight, patience, and support as NIE project officer for this study.

I INTRODUCTION

Career Education (CE) is one response to a perceived need for change in the structure and programs of education. Students have expressed needs for greater relevance, parents and society for a closer attention to economic and social problems of both individuals and the society, and educators for evidence that their efforts are appropriate and effective in dealing with those problems. The problems are large ones, and the CE concept has been formulated in large and comprehensive terms, stressing the interrelationship of learning and work (both very broadly conceived) throughout life. Career Education is meant to encompass the needs of all kinds of students at all grade levels and adults throughout their careers, and to enlist the direct and full participation of almost every public and private segment of society.

Career Education was conceived as a means of bringing work and education closer together. The intent is to make learning more interesting by relating learning more closely to work and revitalizing the educational process by showing how school can lead directly to gainful and useful employment. The concept is substantially broader than that of vocational education, which has most often concerned itself with imparting skills and knowledge for a limited number of occupations, most of which do not have high prestige and many of which provide only limited financial remuneration or job satisfaction. Career education is meant to be a component of lifelong learning, preparing the learner not only for a varied succession of jobs but for the enjoyable use of leisure time. It is to extend throughout the school experience, from kindergarten through college, with ever increasing amounts of genuine job experience and opportunities to interact with adult workers in working environments. Knowledge, skills, and appropriate work attitudes are to result to the mutual satisfaction of both learners and employers. The Career Education concept was deliberately defined in a general way to provide an opportunity for educational institutions to respond creatively and to determine and implement programs that would fit their needs.*

CE programs have now been adopted by more than half of the school districts in the United States.† The subject of this report is the experience of six of those districts in implementing CE programs and the outcomes of those programs to the extent that they can be determined. The reader should note that the findings documented in this report represent findings at a particular moment in time and they are a cross-sectional view of career education program implementation in six school districts. Implementation studies, however, tend to be most revealing when they examine changes over several periods of time. These findings do not preclude the possibility that the programs in these districts may have changed considerably since they were studied.

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*Sidney P. Marland, Jr., Career Education (New York: McGraw-Hill Book Company, 1974), p. 84.

†Career Education in the Public Schools 1974-75: A National Survey, HEW Publication No. (OE)76-00507 (May 1976).

II SUMMARY AND CONCLUSIONS

Career Education

Most of the evidence we were able to gather indicates strong acceptance of Career Education goals among educational personnel and a willingness to incorporate the concepts into their programs. There is little evidence, however, that CE is seen as a driving idea that will solve a substantial part of education's problems. It is seen as useful and perhaps necessary, but only one of a variety of reforms that should be undertaken, and probably not the most important one. Because there are always competing demands for resources, CE must make its case in the marketplace of ideas. It is clearly competitive, but not yet predominant in the districts studied. It can make a major contribution to curriculum reform, but will probably not serve as an engine powering change to any greater extent than is the case with such things as the back-to-basics movement. Education is too varied and its goals too diverse to permit any one idea to have such a dominant position.

One of the more striking observations we were able to make has to do with the degree to which this curriculum reform (and probably most others) are dependent on the voluntary actions of teachers and principals with only broad guidelines being provided by higher authority. To the extent that this condition is generally the case, it is unlikely that any educational change will be revolutionary, because there will always be a substantial number of practitioners who are unwilling to put all of their educational eggs in one basket. A second point is that CE is not perceived as a radical reform, and indeed it fits quite comfortably into elementary curricula in particular without serious disruption. At the secondary level, it is difficult to distinguish CE from vocational education, and CE is not seen as a significant reform.

The enlistment of the collaboration of business and labor as well as the community at large is one of the major goals of CE. There is every reason to think that those groups support the concept, but in most of the districts studied, their direct program involvement was minimal. Business and industry, in those instances in which there was previous development of collaboration with school programs, continued and even expanded those programs, but there was no increased emphasis on the CE concept as such. There was little community involvement in planning and none in direction of the programs. It is certainly conceivable, and perhaps likely, that as CE programs undergo further development, greater participation will occur to the benefit of all parties and groups. However, to the extent that school personnel think they have public support and have developed cooperative relationships on a superficial level with business, industry, and labor, there may be little motivation to invite collaboration that might limit the freedom of school personnel to plan and make decisions.

The study also raises the question of the extent to which federal and state governments and outside agencies can influence educational practice. The limited scope of our work does not permit any definitive answers, but the findings are suggestive. Because each of the districts had received massive funding from the federal government that supported the enlistment of large numbers of teachers and other school personnel in a CE curriculum development activity, it might be assumed that such an experience would provide strong guidance in program development and operation, but there is little evidence that that was the case. Even the provision of planning funds did not shape the programs in any uniform way, although that was not the intent of the providers. The most reasonable conclusion appears to be that tailoring to local needs as perceived by district administration, and more particularly by building personnel, is the strongest single influence on classroom practice, with the outsider role limited to providing materials and other support to be used appropriately by district personnel.

The CE programs as implemented in the districts studied adhere closely to most of the general CE concepts, such as design for all socioeconomic groups and for all types of students including the college bound, as well as program access for all such groups. The programs are also designed for all grade levels, although at the early stages most implementation was at the elementary level. CE programs are also intended for infusion into the general curriculum and not just into more traditional vocational areas, although at the point at which data were taken, such infusion had not actually taken place to any great extent. The relationships with vocational education had not yet been worked out in detail, and there was a tendency for vocational educators to continue program development in their own way without much interest in CE, unless and until it came into conflict with their programs, something that had not occurred thus far.

Nothing that occurred in any of the districts studied ran contrary to basic CE concepts. The level of program development differed from district to district as might be expected, and ultimate outcomes cannot be predicted, but all evidence indicates that each district will in time operate a program suited to its needs and that also meets some or many of the overall goals of Career Education.

Implementation Hypotheses

The contextual framework in which innovation takes place is probably the most important factor in determining its success or failure. The most significant components of that framework are financial and personnel resource commitment, administrative support, positive attitudes toward change, the nature of the innovation, and management skill. Implementation techniques must be tailored to the particular requirements and conditions of each district because those requirements and conditions may differ greatly from district to district even though the organization structures and general climates may appear to be quite similar. It is for this reason that implementation theories do not appear to be particularly useful in formulating strategies and that implementation is

difficult to study systematically. There are components that appear to be common to all implementation processes such as training, provision of materials, and staff support, but very little occurs without the addition of more intangible factors such as motivation to change (quite uncommon in most districts), positive staff attitudes toward the particular innovation in question, minimal disruptive effects from its implementation, and community consensus as to desirability.

Following are a set of relationships or hypotheses growing out of previous work. We discuss here some of those relationships as they appear to find confirmation or disconfirmation in the study results.

The greater the training, facilitating, and involving between the user, adopter, and developer groups, the greater the likelihood for successful implementation--In all of the districts studied, there was substantial overlap among user, adopter, and developer groups, because all districts had participated in development of Comprehensive Career Education Model (CCEM)* materials and all adopted at least some of those units in the 1974-75 implementation program. It is certainly the case that implementation was more effective because of that relationship of functions. It is also true that the greater the district's level of satisfaction with the CCEM development process, the more likely it was to have positive attitudes toward CE implementation.

The more explicitly the user group perceives its goals and the more clearly it perceives its new role, the greater the likelihood for successful implementation--All of the districts felt it necessary to establish goals and objectives toward which implementation could be directed, and the more clearly they were able to do so, the more likely successful implementation would take place. Clearness of perception of roles in the change process also probably contributed to motivation and, thus, to success. If teachers or principals do not perceive that they have any great role in change they are not likely to make the kind of effort that is required.

The more favorable the user group and adopter groups' attitudes toward change, the greater the support for the implementation strategies--Motivation to change is generally lacking or at least weak in most school districts. Such motivation in the case of the six districts studied was stronger than usual, however, because they had received major outside funding for program development and planning. Having planned a program they felt both an obligation and a desire to carry it out. There was some variation in this respect from district to district, but all undertook some kind of program implementation. In that sense, the existence of a plan has motivational value.

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*See discussion in Chapter III.

The more favorable the user and adopter groups' attitude toward the innovation, the greater the support for implementation strategies--As indicated both by previous surveys and by our own, attitudes toward CE in all of the districts studied were highly favorable. Staff, students, parents, and the community at large all were positive toward the concept; and this was undoubtedly helpful in the implementation process. However, both teachers and principals indicated that CE was not the program most highly regarded in priority listings. It was always positively regarded, but given a choice, other programs might have been given preference for implementation.

The more simple and defined the characteristics of the innovation, the greater the effect of the implementation strategies--Most participants in the implementation program seemed to have a reasonably clear picture of what constitutes career education, and all districts attempted to define goals and objectives. Such understanding and definition undoubtedly contributed positively to the implementation process.

The more compatible the characteristics of the students and the characteristics of the innovation, the greater the effect of the implementation strategies--In every district studied, CE programs were designed for participation by every kind of student at all grade levels. There was no distinction between college-bound or academically oriented students and those who would be seeking employment right after graduation. Materials and concepts were offered to all teachers, and infusion into both vocational and academic courses was intended. So far as could be determined, there was no stigma attached to participation in CE programs for any student, regardless of his academic orientation or plans. The level of acceptance by all types of students appeared to be quite high, and teachers saw programs as being valuable for all students, thus contributing to positive attitudes.

The more accessible and extensive innovation materials, the greater the support for implementation strategies--The provision of materials appears to be an essential feature of any successful implementation program. It does not ensure success, but any program is likely to fail without it. Our case studies suggested that materials were more readily available to teachers in some districts than in others, and that extent of availability was an important factor in facilitating installation of programs in the classroom.

The more the community is in favor of the innovation, the greater the effect of the implementation strategies--All of the evidence that we could obtain indicates highly favorable attitudes toward CE in all of the communities in which the study districts were located. It is not, therefore, possible to relate program success differentially to levels of attitude favorability, but such positive attitudes would provide important support for any implementation program.

The more appropriate the background and experience of the user group with the innovation, the greater the support for implementation--As previously noted, the districts did not differ markedly with respect to background and experience with CE, because they had all participated in the CCEM development and because all were chosen for that participation because of previous efforts in career-related fields. Such experience provided part of a solid base on which to build CE implementation. Although it is difficult to demonstrate clearly, it appears that the more such relevant experience a district had, the more likely that its program would be successful.

Implementation is a complex process, and the settings in which it takes place vary greatly with respect to many characteristics. For those reasons, clear-cut relationships among implementation factors and implementation success are difficult to establish. It is our hope that the study here reported has helped to explicate some of these complex relationships and will provide implementers with some guidance as to what they should include in implementation of CE programs.

III BACKGROUND

This study was designed to examine the processes and outcomes of the implementation of Career Education programs in six school districts during 1974-75. The districts had been chosen originally in competition with many other sites throughout the country to participate in the development of the federally sponsored Comprehensive Career Education Model (CCEM). One of the bases for their choice was that each had already begun CE programs and, therefore, had a base on which to build a rather large-scale curriculum development effort. They are not representative of all districts, but they do vary substantially in size, geographic location, and demography. For that reason, their implementation experiences provide a basis for generating conclusions and hypotheses about the influence of site characteristics on implementation processes.

About 150 curriculum units covering all grade levels and subject fields were developed by the districts, with very substantial external funding that permitted the mobilization of large numbers of teachers and specialists in each district. The modules were intended for use in the standard school environment, and they were designed for transportability. In addition to the curriculum units, products to guide pre-service and in-service training in schools and strategy papers for involving parents, minorities, businesses, and other community elements were provided.

As noted above, the six districts chosen for participation in this study had all had substantial experience with work-related or Career Education prior to their participation in the CCEM development process. Their participation in that process was an intensive one, bringing to bear very substantial professional resources in the form of teachers, specialists, and administrators to develop the curriculum units. When that development program was completed, large numbers of district personnel were knowledgeable and skilled with respect to CE; it was felt that the districts were well prepared to undertake the planning and implementation of CE programs; and each received an additional federal grant to plan such implementation.

It should be made clear that the planning process was not to be limited or restricted by any requirement to use the CCEM units that had been developed. The districts were given freedom to develop programs appropriate to their needs and resources. There was no stipulation that CCEM units be used in the programs and, in fact, only limited use was made of them in most cases. The planning process itself was studied by independent contractors. Each district completed its plan, and the study reported here was funded to examine the implementation of those plans. The goal of that examination was to obtain information that would be useful to policy makers in providing support for implementation programs, and that would be of value to other school districts planning to implement career education or other programs.

Objectives of the Study

The objectives of the study were to:

(1) Describe, compare, and contrast the ways in which six school districts implemented innovative CE programs.

(2) Determine what factors in the local setting led each district to choose the implementation methods it selected.

(3) Determine the relationship between the implementation procedures used and the outcomes obtained, with particular emphasis on effects of each of the implementation plans on the attitudes and behavior of school personnel and on the tracing of connections between the procedures used and the behaviors and attitudes resulting therefrom.

(4) Provide information addressing a variety of CE and implementation issues and generate a set of hypotheses about relationships among situational factors, the choice of implementation processes, and the likelihood of successful outcomes.

General Study Considerations

Before proceeding with a more detailed description of the study outcomes and procedures, a few comments on the particular circumstances under which the study was carried out are in order. The implementation programs for each of the LEAs will be discussed later, but it should be noted that they differed markedly with respect to the content of what was to be implemented; implementation strategies, methods, and techniques; goals and objectives; and scope. The environments in which programs were carried out were also different, as were the amounts and kinds of local and other resources applied to implementation. Thus, there is no coherent theory or even set of definable strategies into which the various implementation programs can be fitted. There were common elements in the programs, such as the use of some kind of training and provision of materials to implementers, but there were also great differences in detail. Data collection focused on both unique and common elements, and some general statements applicable across programs can be made on the basis of the commonly derived data. Even the limited use of the common CCEM materials base did not result in comparable or similar programs, because there was great variation in the particular curriculum units used. In view of the program differences we also collected information on the unique features of each in the interest of accurate description and explanatory validity.

Implementation programs were tailored to local needs and resources, and there is little evidence that local planners thought about the implementation program in theoretical or even strategic terms. They based their planning on empirical observation and experience in their districts, and not on any abstract ideas as to what an implementation program should look like. We could identify no implementation theories or hypotheses appropriate to all six of the LEAs or even to smaller subsets; generalization of conclusions was possible only to the extent that there were common

general elements in the programs about which data could be gathered, and such generalizations were formulated wherever it was appropriate to do so. The primary reasons for limited generalizability relate to empirical program differences and not just to the lack of theoretical orientation in planning and development, however.

IV THE NEED TO STUDY IMPLEMENTATION

The allocation and expenditure of federal, state, and local funds for the improvement of education rests, in part, on the development, dissemination, and utilization of new and improved curriculae and instructional systems. New curriculae and instructional systems must be implemented in order for the promised improvement to take place. Consequently, implementation is an important concept that deserves greater study and understanding.

Importance of Implementation

The majority of students in the United States are not exposed to the newest ideas and programs that have been produced by the research and development community.[1] The lag between the discovery and use of new educational ideas and curriculae has been estimated to be a half century.[2] The incidence of nonutilized and subverted changes in education is extensive,[3] and the need for the translation and institutionalization of the products of research and development efforts has been attested to and claimed by policy formulators, researchers, and government officials.[4] Launor Carter has summarized the importance of implementation from a broad policy perspective, as follows:

> Traditionally, it has been assumed that there is a fairly smooth sequence from research through a development phase to the utilization of research results. Evidence shows that this is seldom followed in actual practice and that special efforts must be made to assure that the results of research are applied.[5]

Implementation is an important topic in terms of educational policy, educational administration, educational research, and most importantly, educational improvement.

Lack of Studies of Implementation

The lack of studies of implementation has created a serious void that has been exacerbated by the importance of implementation. It is only recently that implementation has received central focus and attention. Three recent studies, two empirical and one an analysis of reported research, focus on implementation of curriculae and new instructional programs:

- Neal Gross, Joseph Giaequinta, and Marilyn Berstein, Implementing Organizational Innovations (New York: Basic Books, 1971).
- Rand, "Federal Programs Supporting Educational Change," Vol. I-V (Santa Monica: Rand Corporation, R-1589, 1974-75).
- Michael Fullan and Alan Pomfret, "Review of Research on Curriculum Implementation" (Toronto: Ontario Institute for Studies in Education, NIE-P-74-0122, 1975).

That implementation has not been a focus of study is evidenced by the emphasis on diffusion, dissemination, and adoption found in the research literature. A survey of empirical research on change and innovation has revealed that individual adopters, technical innovations, psychological and organizational barriers, and openness to change are frequent study issues. Implementation in terms of extent and fidelity are seldom studied. The lack of implementation studies is critical in view of the importance of studying implementation as a requisite for improving education.

Critical Issues of Implementation

There are five critical issues underlying implementation:

- There is little consensus for a definition of implementation from conceptual and process perspectives.
- There is controversy over what systems and organizations should be involved with implementation.
- There are few standardized strategies for effecting implementation.
- The attributes of innovations affect implementation.
- Environmental characteristics influence the extent and fidelity of implementation.

Implementation as a Concept and a Process

A single definition of implementation has not been developed or accepted. Fullan and Pomfret[6] distinguish between implementation as a concept and as a process. The former is defined as the actual use of an innovation, and the latter is defined as a series of interactions in order to evolve new organizational normative and behavioral forms. In their review of 27 empirical studies, Fullan and Pomfret found inadequate and vague definitions of implementation. Gross et al.[7] defined implementation as the exhib tion of new behavior patterns. Gross and his colleagues closely studied and observed the implementation of a new teaching model in an inner city school. Greenwood, Mann, and McLaughlin[8] defined implementation in terms of the outcomes of various federally funded projects. Four outcomes were listed: perceived success of innovation, perceived changes in teacher behavior, fidelity of implemented project, and difficulty in operating the innovation. A fourth definition comes from a

case study of a complex innovation: Implementation was defined in terms of the establishment of identifiable organizational changes.[9]

Fullan and Pomfret have provided a parsimonious and explicit definition that rests upon distinguishing between the concept and process of implementation. Their definition provides a conceptually sound and behaviorally based foundation for study. As a process, implementation is defined as a series of interactions between the users of an innovation and the developers and facilitators of the innovation in order to bring about new role relationships. As a concept, implementation is defined as the actual use of the innovation either in terms of a prescribed and explicit innovation design or in terms of adaptations to the design in order to fulfill local needs.[10] This distinction is extremely important from conceptual and methodological viewpoints.

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5. Launor Carter, "From Research to Development to Use." (Santa Monica, Calif.: System Development Corp. SP-2332, Jan. 1966).

6. Michael Fullan and Alan Pomfret, "Review of Research on Curriculum Implementation" (Toronto: Ontario Institute for Studies in Education, NIE-P-74-0122, 1975), pp. 4-6.

7. Neal Gross, Joseph Giaquinta, and Marilyn Berstein. Implementing Organizational Innovations. (New York: Basic Books, 1971), p. 90.

8. Rand, "Federal Programs Supporting Educational Change," Vol. III (Santa Monica: Rand Corp., R-1589, 1975), pp. 13-17.

9. Douglas Paul, "The Diffusion of an Innovation Through Inter-organizational Linkages" (Madison, WI: Wisconsin Research and Development Center, Technical Report 308, 1974).

10. Fullon and Pomfret, op cit., p. 6.

V PROCEDURES

The procedures used in conducting this study can be divided into three categories: assembling data from earlier studies, collecting new data, and analyzing both old and new data.

The history of Career Education in each of the six Local Education Agencies (LEAs) had been recounted, the procedures they used in planning implementation activities for 1974-75 had been recorded, and the actual implementation plans themselves had been carefully documented in these four sets of documents:

- PSE evaluation reports
- LEA case studies
- Consultant case studies
- LEA implementation plan.

The case descriptions supplied detailed knowledge and pattern of interpersonal influence known only to LEA personnel. The consultant case studies had the great advantage of detachment and disinterest, along with the unusually broad and diverse perspectives of the six consultants. The product of the $50,000 planning grants awarded to each of the six LEAs was to be a full-scale career education implementation plan for 1974-75. However, the final plans submitted to NIE differed enormously in format and in substantive content. Nevertheless, they provided excellent guides for monitoring LEA activities and excellent yardsticks for measuring LEA accomplishments.

The list of data to be collected during 1974-75 was derived from:

- District records
- Studies conducted before 1974-75
- Other Career Education studies
- Initial 1974-75 visits to LEAs.

Five instruments for collecting the required 1974-75 data were developed:

- Site Visit Interview Forms
- School District Characteristics Questionnaire
- Career Education Questionnaire for Principals

- Career Education Questionnaire for Specialists
- Career Education Questionnaire for Teachers.

Each district had planned implementation activities that could be covered by a common system of information categories for all districts. Included in this system of categories were goals and objectives, training, materials development and adaptation, dissemination, and implementation support. All plans called for activities in each of those areas. Data collection focused on these common elements, and some general statements applicable across programs could be made on the basis of those data. Even the use of the common CCEM materials base did not result in comparable or similar programs, because there was great variation in the particular curriculum units used.

A total of 2061 teacher questionnaires were administered and 1491 returned. A new data file combining data from teachers in all districts was created. The file consisted of 43 variables; a correlation matrix for these 43 variables was computed. The 43 variables were then categorized and two regression analyses relating each category of variables to the criterion variables were computed. Principal and specialist questionnaires were processed in the same fashion as teacher questionnaires, but no across-site analyses were done.

Appendix A presents a complete description of the study procedures and includes the teacher, principal, and specialist questionnaires used in data collection.

VI OVERVIEW OF SCHOOL DISTRICT CHARACTERISTICS

The six systems covered in the case studies were not chosen to be representative of school districts in general (which would have been impossible in any statistically valid sense, because of their limited number). However, the districts do vary substantially in size, environment in which they function, implementation resources available, and demographic characteristics of students, staff, and general population. Two are large urban districts, one in the South and one in the West, with attendant problems of financing and great diversity in student bodies. One is a very large urban-suburban district in the Rocky Mountain area with greater homogeneity in the student body than is the case with the two large urban districts. One is a medium-sized district in the Southwest, with a strong administrative and research staff, and a homogenous student body. The remaining two (middle West and East) are in manufacturing and trade settings, and are quite diverse in staff and student body. The medium-sized one had particularly acute financial problems and a good deal of turmoil regarding desegregation. The smallest has only six schools, can be administered readily by the Central Staff, and is able to monitor the implementation process closely.

The CE programs and implementation processes in the six systems are quite diverse. In the case of the large western district, the main thrust was the distribution of CE materials. This was supplemented by a number of small pilot programs all related to CE concepts, but conducted in relative independence from the strong and well-established vocational education programs. The urban district in the South also distributed materials, and the CE staff made as many direct contacts with teachers and administrators as possible to describe and explain the program. This district also has a long history of collaboration with business and industry in developing and carrying out work-related programs.

The Rocky Mountain district's plan was a long-range one meant to be implemented over a five-to-six-year period with careful integration into ongoing activities. During the period of our study, only nine schools were involved and use was made of materials modified and tailored to the particular requirements of the pilot program. The Southwestern district had planned an experimental implementation program with comparisons of different techniques used in various groups of schools and careful evaluations of outcomes. Some modification of the plans for an experiment took place, but evaluation was still given strong emphasis.

The midwestern district was unable to give much financial or staff support to implementation, so that materials distribution was about all that took place. The smaller eastern district was engaged in a program of curriculum change and fitted the CE program into the altered curriculum so that it was well-integrated.

The ultimate aim of all programs was to involve all or most of the student body in CE and to make such curriculum changes as necessary to integrate it with both academic and vocational areas. In every case, the responsibility for implementation was on the teachers. Implementation was not forced and no specific directives were issued. It was essential, therefore, to convince teachers of the value of the CE program and to provide materials, training, and other support so that they could develop their own classroom programs. The CE concept was highly favored in all districts, but none gave the program the highest priority for fiscal or staff support.

Appendix B contains the case studies which describe the districts and programs in great detail and includes statistics gathered from questionnaires.

VII FINDINGS

The study findings are reported in relationship to a number of central Career Education and program implementation issues. Many of the issues relate to the larger and more general question of the integration of school and work for the benefit of the student and society. It is to be hoped that schools will maintain a significant place in society and that students will recognize the value of their school experiences in preparing them for entry and satisfactory life in the larger culture surrounding the schools. Employers and other workers should also benefit from the closer association of work and school. We have examined the outcomes of our study with respect to the implications of the CE programs that were implemented for changing the relationship between work and school. Is the CE concept one of lifelong learning? Does CE make education more realistic and meaningful? Is CE anti-intellectual? Do CE programs result in a shift in emphasis from college preparation toward entrance into the labor market? Are programs designed to attract college-bound students as well as others? All of these questions have important implications for the design, planning, and use of CE programs.

The issues have been grouped under three general headings for purposes of discussion. They are:

- Curriculum impacts
- External and community considerations
- Organization of schooling.

Curriculum Impacts

Need for Career Education

Most stakeholder groups (parents, business, community organizations, school staff, students) seem to be favorably disposed toward the concept of Career Education to the extent that they understand what it implies. Work experience is thought to be beneficial for everyone, as is knowledge of the world of work. What is less clear is the strength of the feeling of need for new CE programs and of the motivation for significant curriculum change, particularly in view of conflicting demands for scarce educational resources. Curriculum change is always difficult, and it is not always perceived by educators or parent constituencies as an important answer to educational problems. Further, many see vocational education as filling the need for work-related programs (along with student visits to places of business or industry and use of classroom speakers), and probably do not perceive CE as adding significantly to what is already being done.

Related to the question of strength of felt need is that of conflict with other demands for educational reform. Time and financial resources that are used for one purpose cannot be used for another, so priority judgments must be made. For example, there is a drive to return to basics or fundamentals, and CE may be in conflict for resources with such a program. Related also is the question of sources of funding. Some kinds of curriculum reform are supported in part by federal or other external financing and likely may be given priority over programs such as CE that have lesser outside support.

Curriculum Reform

If CE reflects a strong feeling in the various educational constituencies that education is not sufficiently reality-based, can it serve as an engine or driver of more extensive curriculum reform in other areas as well? If the felt need is sufficiently powerful and the CE concept is seen as an important way of filling that need, it might be seen as opening a path for more general changes in curriculum and as a motivator for examining and changing both content and methodology of school programs. Contrarily, it may be viewed as simply another add-on or cosmetic change that will ultimately be absorbed in the traditional curriculum and have few lasting effects on educational practice. Many other programs have had widespread adoption without major or continuing effects.

Some of the purposes of CE are to bring school and work closer together, and to help students prepare for the work almost all of them will have to undertake when they have reached an appropriate temporary stopping point in education. Its use implies the introduction of a great deal of career-oriented material in schools, as well as the use of innovative instructional techniques. The implementation of CE programs might, therefore, require an examination of the entire curriculum in order to make room for it and to integrate it with the curriculum elements that are to be retained. In that sense, CE would serve as an engine or driver of general curriculum reform.

In the districts studied, what is the evidence that the implementation of CE programs served to bring about a reexamination and alteration of the curriculum at any grade level? At the time the data were gathered, there were few indications that implementers had seen their task as one of making major curriculum modifications or that they had any great difficulty in inserting career concepts into essentially unchanged curricula. Occupational and career concepts already exist in considerable abundance in most curricula, as does instruction oriented toward job preparation. New career concepts were substituted in some cases for those already in the curriculum, but there was little or no displacement of any other curriculum elements, and no major alterations were required to insert such new ideas into ongoing programs. The effort, in fact, was to avoid disruption and major change.

At one of the sites, CE was introduced as a part of a previously planned reform of the social science curriculum, but the only requirement was that teachers include two CE units or activities in their classes needing only a few hours of curriculum time. The introduction of CE was not, therefore, a major factor in the modification and in no sense could be seen as a driver or motivator of reform. At another site, the Board of Education had ordered that every graduate be given at least 30 hours of CE instruction as a condition of graduation, but the program had not been implemented when our data were being gathered, so there was no indication of how much general change might be entailed by the requirement. A third district had planned major changes in career guidance systems that would be tied in with the development of CE programs, but such changes had not yet taken place.

In explanation of the apparent lack of major curriculum change occasioned by the introduction of CE programs, it should be noted that data were gathered at an early stage in the implementation process, that the districts had all, in greater or lesser degree, previously moved in the direction of career and vocational education, and most had ongoing programs with several years of history when the new program was implemented; and that there was a conscious effort to move slowly and avoid disruption and the raising of strong opposition. An additional important consideration is that the programs at all sites were dependent on voluntary adoption by teachers. That is not a condition under which major curriculum reform is undertaken. Such change requires a major commitment on the part of the Board of Education and administration and usually the marshalling of community advice and resources as well, none of which took place at any of the six sites. The concept of "infusion" on which all programs were based presupposes little change and certainly not radical change. There was dissatisfaction with the "academic" orientation of the curricula, as indicated in some of the district histories, but such dissatisfaction did not result in radical reform.

In all districts there was a general willingness to support curriculum change, and teachers felt free to do so in their own classrooms. CE was favorably viewed by substantial majorities of teachers and principals, and they believed that parents and others viewed it favorably as well. However, less than a majority saw CE as the most desirable change. Under those circumstances, it seems unlikely that it would serve as a motivator of more extensive changes.

Career Education Content

The general content of CE is conceived to be career awareness in the lower grades, career exploration in the middle grades, and career skill development in the upper grades. Within that general framework, however, there is a great deal of room for variation in emphasis and approach. Certain occupational or skill areas may be given priority over others because of local conditions, for example. There are larger questions, however, of relative program focus on general work skills, work socialization and attitude development, or specific job content

and the relationship of all of these to the individual's ability to get employment or to continue his education. Content must also be related to availability of employment, because training for nonexistent jobs is counterproductive. Difficulty in determining what jobs might be available may argue for providing general basic skills and appropriate orientation to working environments, rather than specific job skills. The question of variation of content depending on types of students served should also be examined. Although all CE programs are designed to avoid tracking or differential treatment of college- and work-bound students, as a practical matter it may be desirable to provide options for student choice in the program to meet a variety of needs.

The content of all of the CE programs studied was based generally on ideas from the CCEM experience and previous CE or vocational education experience. New materials (including CCEM) were used in most of the programs, and such materials form a content base from which teachers work. It should be noted that there was considerable variation even within one school system in the particular curriculum units teachers chose to use. Some made little use of CCEM materials, and in other cases the materials were modified substantially. There was no evidence of great disagreement about the content of materials to be used, probably because teachers had a substantial amount of freedom of choice both as to content and instructional methodology. Within the general headings of career awareness, career exploration, and career skills and knowledge, there is considerable leeway for local variation. The CCEM project represented a large scale effort to specify content and in the process to define career education; however, if school districts and individual teachers have the option of selecting and modifying units or not using them at all, programs can be expected to vary a great deal to fit local conditions, and such variability is probably desirable.

Conflict with Other Changes

Movements toward curriculum or other changes are often motivated or pressed by parents or community groups. The general tendency within school systems is to maintain continuity; evolutionary change is often not very noticeable. One change that appears to have support among parents and in the community at large is a desire to emphasize basic or fundamental subjects such as reading, writing, and mathematics. The schools do not resist such an emphasis and, in fact, often assert that they have always given primary attention to those areas. The back-to-basics drive or any other change in content or methodology will almost always conflict at the point of implementation, if not before, with other goals or emphases, because all school districts have limited resources and must make choices as to where they should be allocated. This conflict may be especially important with respect to a highly visible change such as installation of a Career Education program, the concept of which has wide acceptance. The potential for conflict both with existing and proposed academic or vocational programs certainly exists and must be dealt with by the program implementers by obtaining support both inside and outside the school system.

In the case of the six districts studied, there is little evidence of such conflict with other programs, except in the area of obtaining funding and getting the program into the budget. Budget decisions always involve choices, and none of the programs studied received large funding relative to the total budget at its inception. This is more a matter of overall budget limitations and the normal budget process than of specific conflict with other programs, however. No other major changes were contemplated in the six districts, so the problem was to get funding from the stringent budget and from existing, established programs.

Competition with other programs was generally avoided by the planners and implementers by taking the approach that CE can be infused into the curriculum without major disruption and that it complements rather than competes with other subjects. In one district, there was a conscious attempt to integrate with the academic program in the secondary schools and avoid the appearance or reality of competition for resources. Conflict was also minimized because adoption was largely voluntary on the part of teachers and required no large amount of resources.

Although competition with other programs was not a major problem in any of the six districts studied, it is obvious that it might be in other situations and should be taken account of in planning and implementation. Ultimately, the decisions are made by policymakers and administrators, with input from sources outside the district as well as from within. It should be noted that although the CE concept gets strong approval from most stakeholder groups, as indicated in our data, both teachers and principals expressed stronger preferences for other unspecified programs if it came to a matter of choice, indicating clearly that CE would be in conflict for resources if installation of a large program were contemplated.

External and Community Considerations

Incentives for Industry and Labor

Because the implementation of CE programs requires the cooperation and participation of industry and labor to a substantially greater extent than is usual for other educational programs, including vocational education, what are the incentives or disincentives for such participation? Training for specific jobs is carried on routinely in many businesses and industry, and some on-the-job training is required for almost all jobs, even the least skilled. It is not common, however, even for those companies doing classroom training, to involve themselves in general education planning and decision-making to the extent that might be required for some CE programs. Industry usually does not want to take responsibility for educating the young, because of legal, cost, and other reasons. It is probable that in most cases business wants the school to turn out graduates with reading, writing, and mathematical competence on the basis of which specific job skills can be built, but it does not want responsibility for job training, except for those already hired. It may be economically difficult or indeed impossible for most companies

to provide work experience for students, and they are often limited even in ability to permit observation of work operations on site or to provide classroom speakers. The latter kinds of activities are often public relations gestures that are carried on until they become too costly or too disruptive. Some of our early experiences with employer-based or experience-based CE programs suggest that business and industry have few strong incentives for active or heavy participation in school programs. If the schools can provide job preparation of sufficient quality to make it unnecessary for companies to provide it themselves or if it can develop positive job attitudes, there would be a strong economic incentive for participation. It seems likely, however, that in view of the vast range of jobs and the changing pattern of need for workers, CE programs will have considerable difficulty in providing any substantial number of students with directly usable job skills who need no additional training.

For labor, there are real questions of competition for jobs. If students can be given job experience and become sufficiently skilled, they may displace adult workers. The use of students also induces pressure to reduce the minimum wage, something to which labor is unalterably opposed. The kinds of jobs that labor might be willing to release to students are those that are undesirable because of low skill requirements and low pay and for which very little training is required in any case, so they are not appropriate for inclusion in CE programs.

In the programs studied, few incentives for industry and labor were provided or necessary, because the only participation needed was the provision of field trip sites or speakers. At two of the sites, much more participation and cooperative effort were undertaken, but this was largely in connection with vocational programs of long standing, and it resulted from relationships established over a period of many years.

The primary incentive for business and industry is, of course, the need for personnel trained in basic skills and specific job-related skills as a recruitment and employment pool. To the extent that training can be accomplished while students are still in school, it is unnecessary that it be undertaken on the job by the employer, which has both time and monetary advantages. This incentive relates more to vocational training than to the new concept of CE, however. Participation in CE more broadly may be undertaken as a public relations gesture, so long as the cost is not too great, but for many companies there is little incentive to join in the effort.

Business, industry, and labor were involved only minimally in the planning of the CE programs, except for pilot efforts at two sites requiring the exchange of teacher and business personnel for brief periods and observation and work experience for a few teachers. In the absence of the previously established relationships existing at two of the sites, it would probably have been difficult and time-consuming to integrate industrial and labor assistance into the planning and implementation processes. In any case, the school systems appeared to have had little incentive to encourage substantial involvement at this early stage

because it would have required both personnel and time and because school personnel might not have perceived clearly what value such participation would have.

In the long run, it will be essential to obtain more business and labor participation, but significant school system time and effort will be required to determine what form such participation should take and how it can best be brought about. The two districts in which the process is more advanced might serve as models for others.

Community Involvement

CE has been perceived as a means of getting greater involvement of the community including parents and community groups in the schools, and such involvement is usually regarded as desirable. In studying implementation programs, it was of value to determine how much of an effort was made to get such involvement, how effective it was, and what were the outcomes both for CE and other programs. It is possible that some kinds of community participation make implementation more difficult and produce less satisfactory programs.

Planners and implementers of the CE programs in the six districts studied made very little use of input from the community at large in their activities. Our data indicate a belief on the part of teachers, principals, and administrators that the CE concept had widespread public support, so it may have been thought to be unnecessary to make any special effort to involve community groups or individuals in planning and implementation. Principals devoted less than an hour a month on the average to community relations activities related to CE, and there was no indication that they felt the programs were impeded as a result of the lack of effort. As noted above, at two of the sites, there was considerable involvement of business and industry, but even in those two instances the larger community was not asked to participate and was not systematically informed about the activity, although some individual teachers undoubtedly made special efforts with the parents of their students.

It might be noted that as a general rule, at least for those programs thought to have wide public acceptance, planners and administrators may be reluctant to seek large amounts of community input because the effort needed to organize meetings, distribute information, and the like may be time-consuming and because there is a risk of arousing dormant opposition in some community members through such activities. School personnel recognize the need for public and especially parental acceptance, but if they think it already exists, they are disinclined to devote any great amount of personal or other resources to community relations activities.

Strength of Need for Career Education Programs

The general feeling that education and work should be more closely related probably existed in most of the stakeholder constituencies of the communities studied, and all of the districts had had substantial experience with vocational and career programs. To a considerable extent, however, the CE programs had been supported with outside funding, and when that ceased it was difficult to find internal funding to replace it. If the need had been felt more strongly, it is probable that greater efforts to find funding would have been made, and CE would have been in a better competitive position. As noted previously, even though CE is viewed positively, other unspecified programs would have been preferred at all sites.

A further consideration is that the distinction between Career Education and vocational education is not clearly made by either educators or nonschool persons, and many may feel that the need to bring school and work together is best met by continuation or expansion of existing vocational programs. Others may feel that the infusion of the concepts of CE throughout the grade structure is sufficient to meet the need.

Organization of Schooling

Definition of Career Education

CE was deliberately left undefined by its originators to permit local program development with minimal restrictions. In the absence of fiscal or other controls exercised by higher authorities, all districts are likely to tailor programs and definitions to their own requirements; leaving the definition general, therefore, may have had little effect. The concept is locally defined in terms of goals and objectives and through the planning and decision making that takes place in the implementation process. In the absence of a standard national definition, the concept of innovation integrity has very little meaning. Locally, however, it is of interest to determine whether or not CE is distinguished from vocational education as it was meant to be and if that distinction continues to be maintained as the program develops.

The definition of CE that a district uses is one of the factors determining how schooling will be organized when a CE program is implemented. If it is conceived as not much more than vocational education with an extension to the lower grades, or as what the district has been doing under another name, there need be no significant change in organization or staffing to accommodate a CE program. If it is more broadly conceived as a change that reaches into all areas of schooling and of what follows schooling, it may be felt necessary to make more radical alterations to accommodate the program.

In the districts studied, no explicit definitions were developed, although there appeared to be a shared understanding of the general scope and direction the program should take. Such an understanding was

created initially by specifying goals and objectives and communicating them to personnel involved at all levels in program implementation and operation. Each program was defined by those goals and objectives and by the actions taken in implementing and operating the program. The programs were tailored to local needs, and there was little attempt to fit them to any conception coming from outside the district. CE was not generally regarded as a radical innovation, perhaps because all six districts had previous experience with it. In every case, the concepts were designed to be infused into the curriculum without major disruption, and they were not conceived as being particularly disruptive.

The concept of innovation integrity does not apply because each program was locally designed and implemented; even to the extent that the same materials were used in more than one district, they were used in different ways, so that no effective uniformity was imposed on the programs. If there is a federal desire to establish uniformity in the programs it supports, it will be necessary to develop more precise definitions and monitor expenditures so that innovation integrity is maintained.

Socioeconomic Group Differences

Career Education may have a differential impact on different socioeconomic groups. Its use can become a form of tracking unless content is controlled carefully and the program is organized to attract many different kinds of students. There is a danger that CE programs may be stigmatized in the eyes of parents and students as has been vocational education. It may be perceived as a way of coping with poor students, but such a use is unlikely to provide any real benefits for them. In examining CE programs, we wanted to know if they attracted all kinds of students or only limited categories.

In every case, the CE programs studied were intended for all socioeconomic groups. Teacher statements indicated that they conceived CE as applying across the board, not only to all socioeconomic groups but also to all types of students including the college-bound. In two of the districts, special efforts were made to ensure that college-bound students were encouraged to participate. In one case, a pilot high school program was designed to infuse CE concepts, including work-study, into nonvocational academic programs. We found no evidence that disproportionate numbers of students in low socioeconomic categories were enrolled in CE programs, and there was certainly no intent to do so. However, the programs were at such an early stage in development that we could not assess this question after any substantial operational period.

Our data indicated that teachers and principals believed that CE had wide acceptance among all socioeconomic groups and that no stigma would be attached to participation. The positive value of development of job skills in all students does not seem to be questioned by any group.

Relationship of CE and Vocational Education

Some of the issues involved in the relationship of CE and vocational education have already been discussed, but there are additional questions having to do with the effects of introducing CE programs in districts with well-established vocational education programs. In such cases, CE may tend to be absorbed or taken over, with the program looking much as it did before in the upper grades at least. The question of the extent to which CE and vocational education are complementary or conflicting is also of interest. If good cooperative relationships between business and industry and the schools have been established by vocational education, it may facilitate the implementation of CE programs.

Among the sites having strong vocational education programs, all continued them without substantial amounts of coordination or planning with CE developers. Because vocational education programs exist mainly in the higher secondary grades and because the CE programs initially were aimed at the elementary grades, there was little conflict. In those locations having established vocational programs, they tend to be strong, well-organized, and well-funded, and are probably equipped to absorb the CE efforts in the higher grades at least. They may have little interest in expanding into elementary grades and may be quite content to leave that area to CE. It is likely, also, that even if CE concepts are infused throughout the curriculum, the vocational program will get most of the funding and will be able to shape the efforts. In most of our discussions with vocational education personnel in the districts studied, we found little evidence of concern with the CE program and an evident intent to continue with the development of vocational programs in a rather traditional fashion. Most persons outside the schools (and some within them) probably do not distinguish CE and vocational education clearly and would use the terms interchangeably. In only one of the districts studied were CE and vocational education placed under the same administrative unit, and that is probably an important factor in helping to ensure that advocates of both get a hearing and that the programs are coordinated and integrated.

Grade Levels

It may be easier to introduce CE into some grade levels than others, both because the CE program is different at the different levels and because there is less interference or disruptive effect in some areas than others. Such differences may relate to program design and implementation starting points and to the kinds of implementation techniques used at the various levels.

In accordance with the overall CE concept, all programs were meant to cover all grade levels; teachers and principals saw CE as valuable for students at all levels. With the exception of one district, the first implementation efforts were devoted to the elementary level. There are a number of reasons for such ordering. First, most traditional programs have little in the way of career orientation at the elementary

level, and teachers seemed motivated to bring in new material (in some cases just because it was new). Second, installation is easier and less disruptive at the elementary level than it is in the more rigid course structure of secondary schools, especially in view of the concept of focusing on the development of job skills and knowledge in high school. Third, vocational educators have more of a position of influence in secondary schools and may see little need for the introduction of career concepts, because they are already being covered in part by vocational programs.

The Nature of the Innovation

Some curriculum innovations are more radical than others. It may be assumed that the more readily an innovation can be incorporated in the curriculum, the less likely it is to cause serious disruption and the more readily it will be absorbed. It may be the case also that some conservative innovations will lose their innovative character in the process of easy absorption. The nature of CE from this point of view was examined to determine whether or not it required major alterations in curriculum, governance, or resource allocation, and the degree to which it tended to displace other academic studies or complement them to the benefit of both. If extensive changes in school district organization and administration are required, it may be less likely that implementation will succeed. Related also is the question of the strength of the organizational and administrative drive that is required to make implementation successful.

Implementation of a new program is more likely to be successful if the program is not radically different from those already existing. The introduction of CE into elementary school classrooms is relatively easy because it does not differ greatly from many of the programs being carried out in those classrooms. It is often welcomed because it means the use of new materials with concomitant greater interest for the students. Scheduling problems may arise if CE curriculum units must be substituted for others, but if, as is often the case, the material can be infused with differences in emphasis rather than complete substitution, the scheduling difficulties can be alleviated. The best situation is one in which general curriculum revision is being undertaken, as was the case with one of the districts studied. A related factor that makes infusion easier is the availability of curriculum units that are not highly structured, so they can be adapted to individual needs. Modular, self-contained components are useful in this respect.

It is probably more difficult to introduce CE into secondary grades than into elementary grades. The secondary curriculum is less flexible, and many of its subject areas do not lend themselves readily to the introduction of CE concepts. CE is, in that sense, a more radical innovation in secondary schools, requiring greater efforts to integrate smoothly and making it necessary to drop other more traditional subjects.

Voluntary Adoption of CE

In all of the cases under study, adoption or nonadoption of the CE curriculum was voluntary on the part of teachers. Such adoption was not mandated but only encouraged to varying degrees. In such a situation, the kinds and amounts of encouragement and support that are provided by the district and their facilitating effect become important. Experience and training backgrounds of the teachers may also be relevant, along with the amount of freedom to determine and control curriculum content and instructional methodology that teachers may exercise.

Organization, Administration, and Planning

If, as was the case in all of the districts studied, participation in the CE program is voluntary, implementation success is heavily dependent on the provision of information and assistance to the teachers who must plan and carry out classroom programs. Thus, the implementation programs planned in the district offices all focused to a greater or lesser degree on training, the provision of curricular and other materials, staff support, and the development of positive attitudes toward CE. In general, the teacher and principal responses from all districts indicated that attitudes were positive and that reasonably adequate training, materials, and staff support were provided. It was, however, difficult to show clear connections between these factors and success or failure of implementation. The difficulty probably results from a number of problems, such as the absence of unequivocal measures of implementation success, the limited resources that could be applied in the time period in which the study was conducted, and the inherent problem of not being able to explore all of the environmental, management, and other site specific factors that may be of great importance with the use of a questionnaire medium. The latter problem accounts for our use of case study and interview methodology as a supplement and to add greater depth to the analysis.

It seems likely that positive training, materials, support, and attitude factors are all necessary to implementation, but that they are not sufficient to ensure its success. In fact, their contribution may be considerably less than that provided by other elements of the situation that were identified and examined in the case studies. Some of these elements are discussed on the following pages.

District Staff and Management Support

No curricular or other innovation can be successfully implemented without at least the passive support of the superintendent and his staff. There are vast differences in levels of enthusiasm with which such support is expressed and in the resources committed by the central administration to any given program. In one of the districts studied, there is a Division of Career Education with an assistant superintendent whose sole responsibility is that division. It has adequate budgetary support. Such an organizational arrangement is much more likely to lead to

successful program implementation than one in which the CE program is merely an added duty for an administrator who is already overburdened.

An administrative structure or administrative behavior that provides for the making of timely and clear cut management decisions is also a positive factor. In one of the districts studied, the climate for CE appeared to be favorable, but it was very difficult to get straightforward answers or decisions from the appropriate managers, with the inevitable result that both planning and implementation were impeded. At the school level, the same problem may arise if principals are unwilling to make a commitment.

The existence of a separate CE staff with adequate funding is also a significant factor. In a number of the districts studied, the planning project staff was disbanded as soon as outside money ceased to come in, with the result that there was no longer any direct CE responsibility or any individuals who were clearly identified as a source of assistance to teachers. Such disbandment also suggests a lack of commitment on the part of the administration to the program.

Financial and Personnel Resources

Related to some of the matters discussed above is the question of financial and personnel resources. The freeing of personnel to concentrate on CE may be a very important consideration in implementation, and this requires the commitment of funds for which there are always competing demands. When outside money ceases, it may be difficult or impossible for the district to make up the deficiency from within its own resources. There is strong evidence that such inability or unwillingness to commit funds was present in almost all of the districts studied, although the first step in the process, that of getting CE included as a line item in the budget, was achieved in some of the districts. Even where that occurred, however, the amounts asked for were markedly greater than were ultimately budgeted.

In every case, the amount of staff support was subject to budgetary limitations. Even though there was general satisfaction with what was received, almost all teachers could have used more of such support. A larger support staff would also have made possible a more active program of encouraging development of classroom CE programs.

Curricular materials are often costly, and the failure to provide them has a severely limiting effect on the speed and depth of implementation. To the extent that teachers must devise their own materials, the implementation process is slowed, if not stopped altogether.

Impact of Planning and Development Funds

Questions of amounts and sources of funding are always important in relation to effectiveness of implementation. This study provided an opportunity to examine some of the relationships between provision of substantial sums of planning and development funds from external sources and the nature and outcomes of implementation programs. Each of the districts studied had received substantial sums for CE curriculum development and for program planning, but none for implementation itself. It was of interest to determine whether or not planning was more effective because of the provision of planning money and, if so, if more effective planning led to more effective implementation. We also examined the question of the uses to which the planning money was put and the apparent effects of those varying uses. From a public policy standpoint the matter of amounts of kinds of control that the provider exercises or should exercise over the use of the money is of concern.

It is usually assumed that the more time and effort are devoted to implementation planning, the more successful implementation will be. It is difficult to argue with that proposition, but it is also difficult to show the direct connections between planning processes and implementation outcomes. In the six districts under examination, outside funding for planning was provided, and it was possible to set up a planning staff that had no other duties. Such planning for curricular change with both adequate time and funding available is very rare in most districts because of the kind of resource limitations previously discussed. The six districts all took different planning approaches; there is some evidence that the money may not have been used effectively, because the sort of planning it permitted was unfamiliar. In some cases, the ultimate plan could probably have been produced with substantially less effort. The most effective use of the resources was probably made in those districts that undertook pilot programs that they might not have been able to plan in the absence of the additional funds. The least effective use was that of simply strengthening training and other activities that might have been undertaken in any case. The effective use of planning funds is an area that might be subjected to additional, more systematic study to determine if a set of planning principles can be developed.

Evaluation

It is an article of faith that a good implementation plan should provide for program evaluation, preferably of a formal kind. The plans developed by the six districts studied did not provide for any great amount of such evaluation. This may be accounted for by the great difficulty encountered in evaluating infused programs in a controlled fashion and by the limited evaluation time, skills, and resources available in many school districts. Teachers and district staff personnel are often confident of their abilities to assess the effects of instruction and do not feel the need for formal, time-consuming evaluation programs. It is difficult to evaluate the implementation process itself both because appropriate criteria to which rigorous measurement can be applied have not

been fully identified and because the application of evaluation methodology in a complex operating system is difficult. It is clear that some assessment of both implementation success and student outcomes is essential if programs are to be developed and altered appropriately, but much of that assessment may have to be informal and judgmental in an operating setting.

Teacher Participation in Planning and Development

Because all six districts in which this study was carried out had participated in the development of the CCEM curriculum units, many teachers had previous involvement in CE. That involvement had produced generally favorable attitudes, and those attitudes provided a base on which the implementation program could rest. The project also provided an opportunity to develop materials, and locally developed materials are more likely to be used than those from outside. Both of these factors produced a favorable climate for implementation, as did the provision of planning funding which made possible greater local participation in the process.

Face-to-Face Contact

In those cases in which members of the planning team or other staff personnel were available and made an effort to discuss CE problems with teachers on a direct-contact basis, implementation was more likely to be successful. Sending promotional or other materials to the schools without direct follow-up, at least by telephone, is a relatively ineffective means of encouraging implementation of CE programs in the classroom. Most teachers who reported that they had had one to two hours per month of such interaction felt it to be extremely valuable, both motivationally and in solving specific problems associated with the program. In those cases in which the opportunity for such interaction was limited or nonexistent, implementation was neither as rapid nor as thorough as was the case in other sites.

The kind of staff assistance that was most desired and used in the districts was help in arranging field trips and in bringing speakers into the schools. Teachers do not have the time or skills needed to identify and establish the necessary liaison with the great variety of potential resources available in most communities. If implementation planning can provide such time and skills as a central staff service, it is likely to have a great facilitating effect.

The Pacing of Implementation

To the extent that implementation can be carried out in an orderly fashion over a considerable period of time and beginning with limited pilot programs that are more readily amenable to evaluation, it seems more likely to be successful, and the process will be more efficient. The CCEM project is probably an example of too much money applied too

rapidly. There was little opportunity for reflection, revision, or evaluation, with the result that some of the products were difficult to use in the later implementation programs. Because all of the programs examined were in relatively early stages, it is difficult to estimate the long-term effects of duration of CE, but in three of the districts pilot programs only were undertaken in the first year, and it seems likely that the probability for success in those districts is somewhat higher than in the others.

VIII CROSS DISTRICT ANALYSES AND COMPARISONS

There are great differences in the ways in which the six districts implemented CE programs in 1974-75. None based implementation planning on any kind of theory, and each plan was tailored to the particular needs and circumstances in the local situation. The districts differed markedly in size, resources, types and numbers of innovations undertaken in the past, motivations to implement quickly, and backgrounds and skills of project team members. In addition, the scheduled timing of implementation varied substantially so that during the period in which information was being gathered for the study districts were all at different stages of development in their CE programs. Finally, even though all six districts had been participants in the CCEM program, their pre-CCEM experiences and developments with respect to other vocational and career programs varied substantially, so that the bases on which implementation was undertaken were different.

All of these differences make for difficulty in generalization and for reaching common conclusions that might apply to other districts wishing to plan and implement CE programs. We did, however, seek common elements in implementation plans and activities, and our data collection instruments and techniques were designed to detect such commonalities. Identical teacher questionnaires were circulated in four of the districts, and identical principal questionnaires in five. In the one district in which neither type of questionnaire was circulated, our interview protocols covered the same areas as had been covered in the questionnaires. Common areas covered in the instruments included training, materials, staff support, community involvement, and teacher and student characteristics. Attitudes toward CE were also assessed in all districts. It was hoped that in this way, some cross-district comparisons might be made and some general conclusions applying to all districts might be formulated.

Statistical Analysis

After having obtained frequency counts, percentages, marginal totals, and cross-tabulations for the questionnaire responses for each site, the teacher questionnaires for all sites were combined and subjected to additional correlational analyses. Some 43 variables (listed in Table A-1) from the teacher questionnaires were used in these analyses. For purposes of interpretation, they were grouped into categories of criteria, location, teacher background, training, materials, characteristics of students, and support staff (Table A-2). The first analysis consisted of an intercorrelation of all 43 variables. There appear to be no substantial relationships bearing on CE implementation with respect to either teacher or student characteristics. They differed somewhat from site to site, but

the differences do not seem to be important as regards implementation activities undertaken or outcomes. Some other correlations relevant to implementation are discussed in the following pages.

The specification of goals and objectives may be seen as an important prerequisite to implementation because it is necessary to have a clear picture of what one is trying to do. In all of the districts included in the study, the success of implementation was heavily dependent on voluntary action by teachers and it is, therefore, essential that they understand and accept the goals and objectives specified in the plan. The relationship between familiarity with program goals and judgments of their usefulness is high (0.72) indicating that the goals were thought to be appropriate. Degree of familiarity with goals relates also to number of materials used (0.48) suggesting that such familiarity may have a motivating effect. Most other correlations relating to goals are quite low.

It might be assumed that experience with CE would correlate highly with use of CE materials, but the relationship is only 0.25. There may, of course, be a variety of reasons for not using CE materials in the classroom, including lack of time and inappropriateness of the materials available.

A second important implementation variable is thought to be training. One might hypothesize that amount of training and implementation effort would be positively related. However, hours of training relate only very moderately with materials used (0.25), and time teaching CE (0.25). It should be noted that the range of training hours was very limited as were hours of classroom teaching, both of which would tend to attenuate the relationship.

The availability of good materials in sufficient quantity bears on implementation. The number of materials available relates moderately (0.39) to time spent in teaching CE and to judged importance of the CE program (0.34).

It is often thought to be of value to involve teachers in planning as a means of increasing their willingness to implement, but the relationships shown in our data are only moderate. Amount of planning involvement correlates at 0.30 with time spent in teaching CE and at 0.29 with judged importance of the CE program.

There is no great explanatory power in any of the relationships delineated above, and this is as might be expected in view of the complexity of implementation of any new curriculum thrust, the limited resources in all of the districts studied, and the narrow range of many of the variables that were intercorrelated.

Multiple Regression Analysis

In an attempt at further explication of some of the variable relationships, we performed two multiple regression analyses. In these analyses the following were used as dependent variables:

(1) Familiarity with goals
(2) Usefulness of goals
(3) Degree of fit between goals and curriculum
(4) Importance of accomplishing goals
(5) Influence of training on teaching
(6) Use of materials as a percentage of those available
(7) Hours per week teaching CE
(8) Proportions of students benefitting from CE instruction
(9) Student attitudes toward CE
(10) Teacher attitudes toward CE
(11) Community attitudes toward CE
(12) Summation of all attitudes toward CE
(13) Summation of attitudes indicating CE is somewhat important
(14) Summation of attitudes indicating CE is somewhat unimportant
(15) Summation of attitudes indicating CE is very important
(16) Overall importance of CE program.

The above are dependent variables in the sense that all might be expected to vary as a result of implementation activities that were undertaken. No attempt was made to assess direct effects on students, but positive effects with respect to any of the criteria specified might be expected to result in positive learning effects ultimately.

In the first multiple regression analysis, site and teacher background variables were controlled, and a series of four analyses, each adding in turn another set of variables relating to implementation, were conducted. The four sets of variables were training, materials, staff support, and student characteristics. The amount of increase in variance as each set is added provides an indication of the contribution of that set to criterion variance and, therefore, of its importance to implementation. Almost all of the variances are very low (under 0.25) against all of the criterion variables, and the increases as each set of variables were added were also minimal (under 0.10). Taken across all criterion variables, training appears to make the largest contribution to variance, followed by student characteristics, materials, and support staff in that order.

The second multiple regression analysis conducted was essentially the opposite of the first. We first computed the multiple regression coefficients of all sets of variables (excluding the criteria, of course) together with each criterion. In succeeding runs, one set of variables was omitted in turn on each run. In this case, the reduction in variance resulting from omitting a category indicated the proportional unique contribution (independent of other categories) of that category. As in the previous case, almost all of the beginning multiple regression coefficients were below 0.25, and subtractions indicating effects of each category were very small. Considered across all criterion variables, teacher background made the largest average contribution, followed by training, student characteristics, materials, sites, and support staff in that order.

In view of the low magnitude of the multiple regression coefficients and the minimal changes attributable to each set of implementation variables, it is very difficult to make much of the results of the analysis. The outcome probably results from a combination of factors including the quite limited amount of implementation that was undertaken even at the most active sites, the great differences in implementation programs and environments in which they were carried out, and the limited time in which programs had been in effect by the end of the 1974-75 year when the data were taken.